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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,243	03/28/2001	Terry L. Kendall	42390P10070	3769

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EXAMINER

PORTKA, GARY J

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 11/17/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,243

Applicant(s)

KENDALL, TERRY L.

Examiner

Gary J Portka

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2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,21 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-9 have been amended, and claims 22 and 24 have been canceled by Applicant. Claims 1-9, 21, and 23 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-9, 21 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Each of claims 1 and 6 recite that the wait control logic signals the processor that if requested data is in the cache it is ready to be read on a next processor cycle. However, inspection of Figs. 4 and 5, and the related description, clarifies that the WAIT signal only indicates whether the data is or is not ready. Whether the data is not in the cache (first D1 and D2, and D5, Fig. 5) or is in the cache (second D1 and D2), the WAIT signal holds until the data is ready, at which time it switches; it does not indicate if data will be available in the next cycle. Claims 2-5, 7-9, 21, and 23 incorporate these limitations by dependency and thus are rejected for the same reason.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Taylor et al., U.S. Patent 6,263,398 B1.

6. As to claims 1 and 6, Taylor discloses the recited memory device integrated with cache (see Abstract, Figure 1, and column 3 lines 7-35), and stores recently accessed data at 14 and associated addresses at 24. Taylor also additionally teaches the recited wait control signal to the extent disclosed (see 37 CFR 112 rejection above), see signal READY 32 in Fig. 1, and described at col. 5 lines 19-24 and 56-62.

7. As to claims 2-4 and 7-9, Taylor discloses address latch logic 18, 20, address cache and comparison at 24, and data cache 14. See Fig. 1 and col. 4 lines 56-66, and col. 5 lines 60-62. The data is allowed to be read in the next cycle since when there is a hit in the cache (Fig. 4, 314) the ready signal is immediately indicated (316).

8. As to claim 5, the address is not presented to the memory as recited since when there is a cache hit the column address is applied directly to the cache (see col. 8 lines 32-36).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-9, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto, U.S. Patent 6,288,923 B1, in view of the admitted prior art.

11. As to claims 1 and 6, Sakamoto discloses the recited memory device integrated with cache (see Abstract, Figure 2, column 1 line 57 to column 2 line 8). Sakamoto does not disclose a wait control signal as recited. However, in Figs. 1 and 2, and in paragraphs 5 and 6, Applicants have admitted that such a wait control signal was known in the art. As described therein, a wait control signal is used to indicate to the processor when requested data from the memory is available. An artisan would have known that such a control signal would have been advantageous in the system of Sakamoto, because clearly the delay for data availability varied depending upon whether it was in the cache, and the variance in the delay could easily have been indicated to the processor via the wait control signal. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use a wait control signal as recited, because such a signal to the extent disclosed in the invention was admitted as prior art to provide delay control indication to the processor.

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12. As to claims 2-4 and 7-9, Sakamoto discloses address latch logic 11, 12, address cache 21, comparison at 23, and data cache 26. See Fig. 2 and col. 3 lines 14-29, and col. 4 lines 9-22, 35-40, and 59-62. The data is allowed to be read in the next cycle as shown in Figs. 7A and 7C.

13. As to claim 5, the address is not presented to the memory as recited since when there is a cache hit the counter 27 increments to the next address without applying the hit address to the memory (see col. 4 line 66 to col. 5 line 15).

14. As to claims 21 and 23, Sakamoto discloses quadwords to the extent recited. See Figures 6-10, where data is output in groups of four registers. Multiple and non-consecutive quadwords are stored simultaneously in the register array shown in Figure 4.

Response to Arguments

15. Applicant's arguments filed September 22, 2003 have been fully considered but they are not persuasive.

Applicants argue that the prior art does not teach the wait control signal as recited. Examiner disagrees, and reiterates that the wait control signal as disclosed in the present specification (see 37 CFR 112 rejection above) is disclosed in Taylor and in the admitted prior art (see 37 CFR 102 and 103 rejections above).

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J Portka whose telephone number is (703) 305-4033. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Gary J Portka
Primary Examiner
Art Unit 2188

A handwritten signature in black ink, appearing to read "Gary J Portka", written in a cursive style.

November 13, 2003